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Massachusetts
Technology Development
Corporation

Annual Report 1980



MASSACHUSETTS
TECHNOLOGY DEVELOPMENT
CORPORATION
ANNUAL REPORT 1980
COMMONWEALTH OF MASSACHUSETTS
OFFICE OF THE ATTORNEY GENERAL

Massachusetts Technology Development Corporation

The Massachusetts Technology Development Corporation is a development finance organization which was created by act of the state legislature in late 1978 and which began operating its investment fund in March, 1979.

MTDC was formed to provide a source of capital to new and expanding high technology enterprises which have the capacity to generate significant employment growth in Massachusetts but which have been unable to secure from conventional sources sufficient affordable capital to fund such expansion adequately.

The initial capitalization of MTDC's investment fund was provided by the Economic Development Administration of the United States Department of Commerce. The fund is managed on a revolving loan fund basis with principal repayments and equity earnings credited to the fund for subsequent re-investment.

MTDC is an independent public agency whose operations are supervised by an eleven person Board of Directors, composed of six individuals from the private sector, two individuals from the university community and three public officials. The organization is a public instrumentality and is not a for profit corporation.

GOVERNMENT DOCUMENTS
COLLECTION
JUL 15 1983
University of Massachusetts
Depository Copy

Report of the Chairman and President



Marvin G. Schorr and William F. Aikman

This Annual Report documents the Massachusetts Technology Development Corporation's first full year of operation since the original capitalization of our investment fund in the late spring of 1979. During the fiscal year ended June 30, 1980, MTDC began to demonstrate the effective role which a publicly-financed venture capital organization can play in fostering the expansion of small companies in the state's critically important technological industries.

As a development finance organization dedicated to co-venturing with traditional sources of private investment capital, MTDC was unique when it began operating a year and a half ago. No other state had created an organization devoted to establishing such joint venture undertakings as a method of facilitating small business expansion. In the short time that MTDC has been operating, it has served, in effect, as a national laboratory for this type of public/private partnership.

We are pleased to report that our colleagues in other regions of the country have concluded that the experiment is successful, and they are moving rapidly to establish their own versions of MTDC. Two states have already brought on line operating versions of MTDC, four more are in the process of establishing such organizations and a number of others are studying the possibility of replicating the MTDC experience.

Naturally, the honor of being first in the nation brought with it the responsibility to be especially careful about what we were undertaking. Consequently, a great deal of thought, analysis and, frankly, some experimentation were devoted during the past year to such issues as developing appropriate investment guidelines, application review processes, and general operating procedures. After a few mid-course corrections, these matters have now all been resolved in ways which we believe have produced an organization that efficiently and vigorously pursues the public purpose for which it was established.

During the 1980 fiscal year, MTDC made its first five investments. The businesses of these five companies and the details of MTDC's investments in them are described in the following pages of this Report. In the aggregate, MTDC's investments in these companies totaled \$950,000. Our private sector co-venturers invested contemporaneously with us a total of \$3,020,000 in the same companies. We are proud to number among our co-investors some of the premier venture capital firms in the nation, including American Research and Development, Memorial Drive Trust, and InnoVen. Our other co-investors include some of the region's leading commercial banks, as well as several operating corporations and sophisticated individual investors.

If the initial projections by our portfolio companies prove accurate, these first five investments should produce almost 600 new jobs in

Massachusetts, a figure we take considerable pride in as the result of a first year's work.

In addition to making investments in five growing companies, MTDC has worked with a number of other companies during the past year and has provided many of them with financial packaging assistance that enabled them to secure the financing they needed – without receiving any funds from MTDC. More than a dozen companies which we assisted in their search for financing, but which we did not invest in, received a total of several millions of dollars in new equity and long-term debt financing from a variety of conventional sources of capital.

The past year has brought a number of changes to the Board of Directors and management of MTDC. In April, 1980, the Board of Directors elected William F. Aikman to the position of President and Chief Executive Officer. Mr. Aikman, a lawyer by training, was formerly the Under Secretary of Economic Affairs for the Commonwealth of Massachusetts and had previously played a role, either as an attorney, as a Board member or as a public official, in a number of organizations with goals similar to those of MTDC.

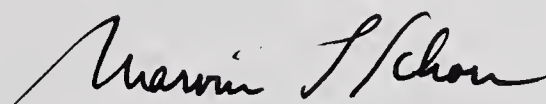
The membership of the Board of Directors changed substantially this year with the departure of three of the original Directors, the undertaking of two officer positions by a fourth Director and the appointment of four new Directors. Dr. Albert J. Kelley, President of Arthur D. Little Program Systems Management Company; Dr. David I. Kosowsky, President of the Damon Corporation; and Dr. Charles A. Sanders, General Director of the Massachusetts General Hospital, all resigned to devote more time to their principal responsibilities. Warren S. Berg, Senior Vice President of the Shawmut Bank of Boston, was appointed Secretary and Treasurer of the Corporation following the expiration of his term as Director.

In June, 1980, four new Directors were appointed to the Board, bringing with them a range and depth of experience that has been enormously valuable. Our new Directors are: Orie L. Dudley, Senior Investment Analyst, Endowment Management and Research Corporation; Joseph S. Iandiorio, Esq., patent attorney; Dr. Judith H. Obermayer, Vice President, Moleculon Research Corporation; and Arthur M. Vash, corporate director and former President of the Phillips Screw Company.

We are also pleased to report that a small but extremely professional and dedicated staff has been assembled, a staff which we believe will enable us to make the most effective use of our capital and other resources.

In summary, we believe our first full year of operation has been one of exceptional progress, and we are confident that in the coming year we will build rapidly and productively on the foundation that is now firmly established.

November 1, 1980



Marvin G. Schorr
Chairman



William F. Aikman
President

Discom, Incorporated

The rural community of Littleton is the current home of Display Components, Inc. (Discom), a manufacturer of high-performance magnetic deflection yokes, focus coils and other electron optical components. After reviewing the firm's fiscal 1978 performance, the Discom management concluded that additions to the company's capital base were required in order to achieve their 1982 goals of \$11.5 million in sales and an employee force of 280.

In January 1980, MTDC invested \$250,000 in this company which, in combination with a \$420,000 investment from a Cambridge-based venture capital firm, gives this company the necessary financial strength to expand its business rapidly. The MTDC investment has already stirred new business activity and the company soon will move into new and larger facilities.

Discom's magnetic deflection yokes.



Xylogics, Incorporated

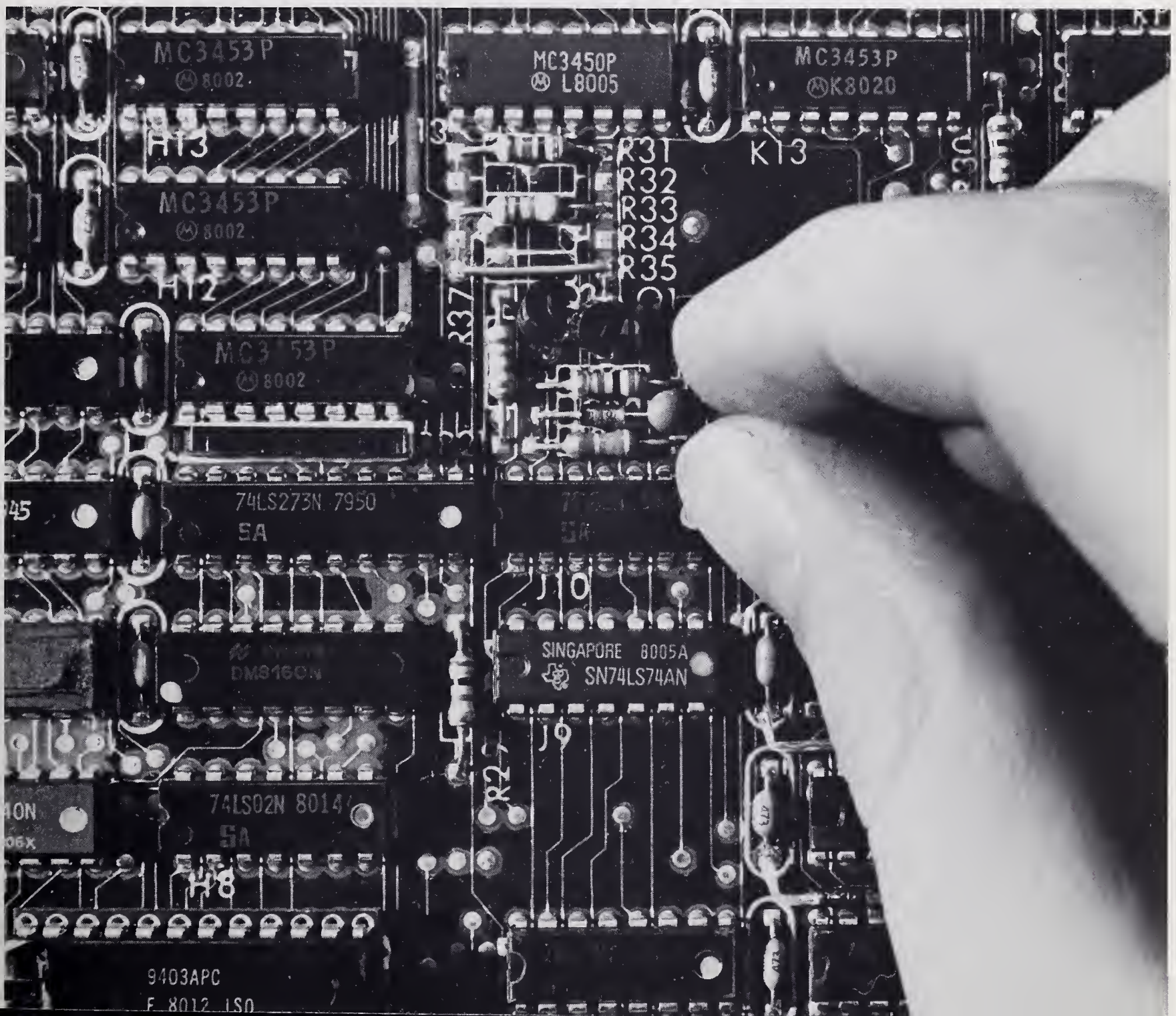
The dynamic computer industry has spawned the development of a host of new products, including "intelligent controllers" which interface between the central computer and peripheral equipment such as disks, tapes, printers and terminals. In 1975, Xylogics, Inc., headquartered in Burlington, was formed to address this rapidly-evolving and high-growth market.

Xylogics recognized that it needed new management in order to achieve its lofty goals of \$20 million in sales and employment of 210 people in 1982. In late 1978, the Xylogics Board of Directors appointed new management which

possessed the combination of qualities necessary to effectively operate a high-growth company.

The new management team and the attractive opportunities in the marketplace for the company's products convinced MTDC to invest \$250,000 in Xylogics while a major Boston venture capital firm and a New York area venture capital firm jointly invested \$750,000 in the company concurrently. Soon after this infusion of new capital, one of the region's leading commercial banks granted the company an \$800,000 increase in its revolving line of credit.

Xylogics 650 Peripheral Processor.



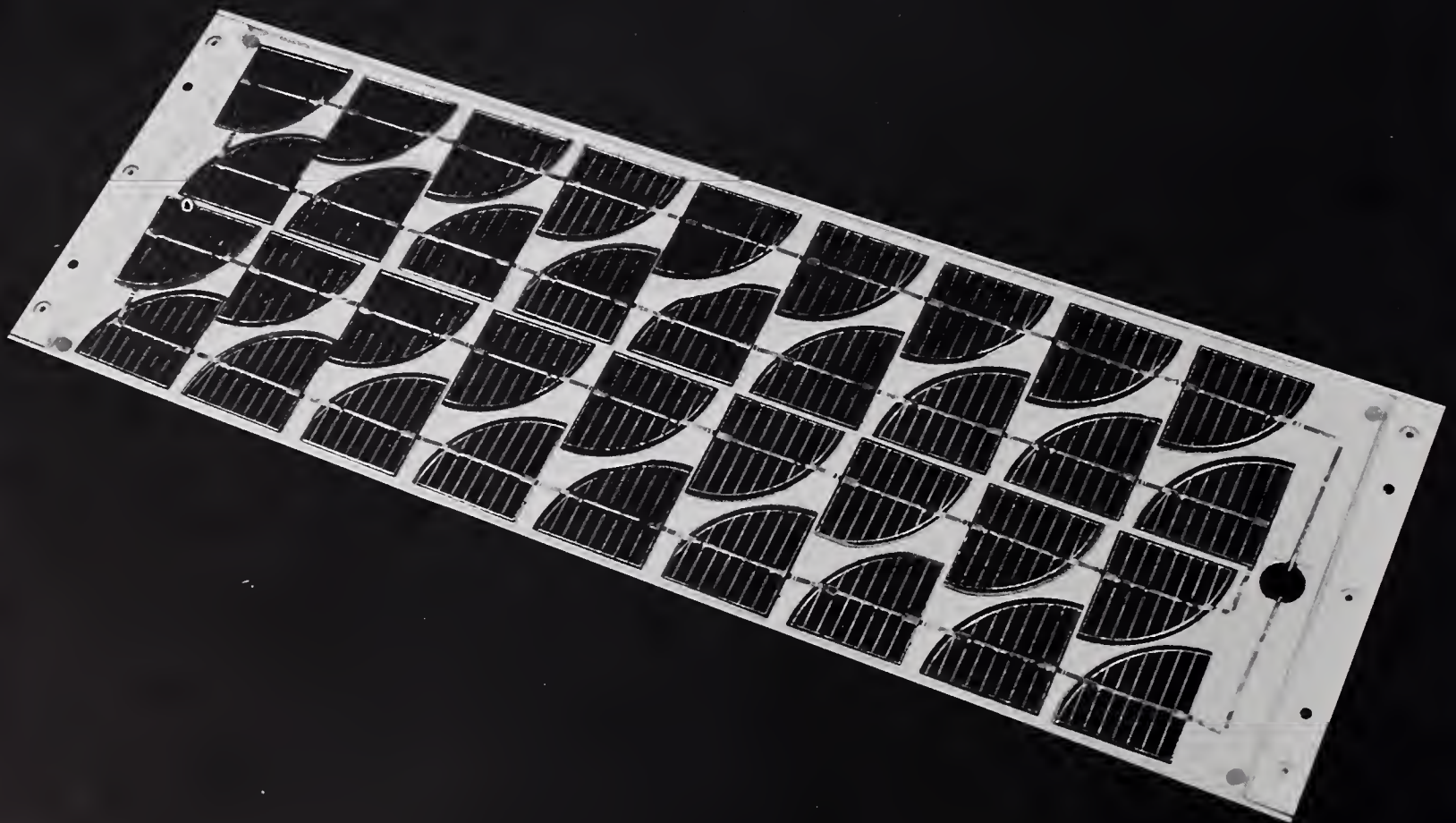
Solenergy Corporation

Motivated by the spirit of entrepreneurship, Robert Willis resigned as President of Solar Power Corp., an affiliate of Exxon Enterprises, in 1978 to start Solenergy Corp., a Wakefield firm that specializes in the fabrication of solar cells and modules for terrestrial applications.

By June 1980, the company was poised to make a full-scale commercialization of

its products and MTDC invested \$100,000 in the company. MTDC's investment, when combined with a \$110,000 equity investment from an out-of-state company, will provide the capital base for Solenergy to achieve its 1982 goals of \$2,500,000 in sales and a work force of 45 employees.

High performance photovoltaic modules.



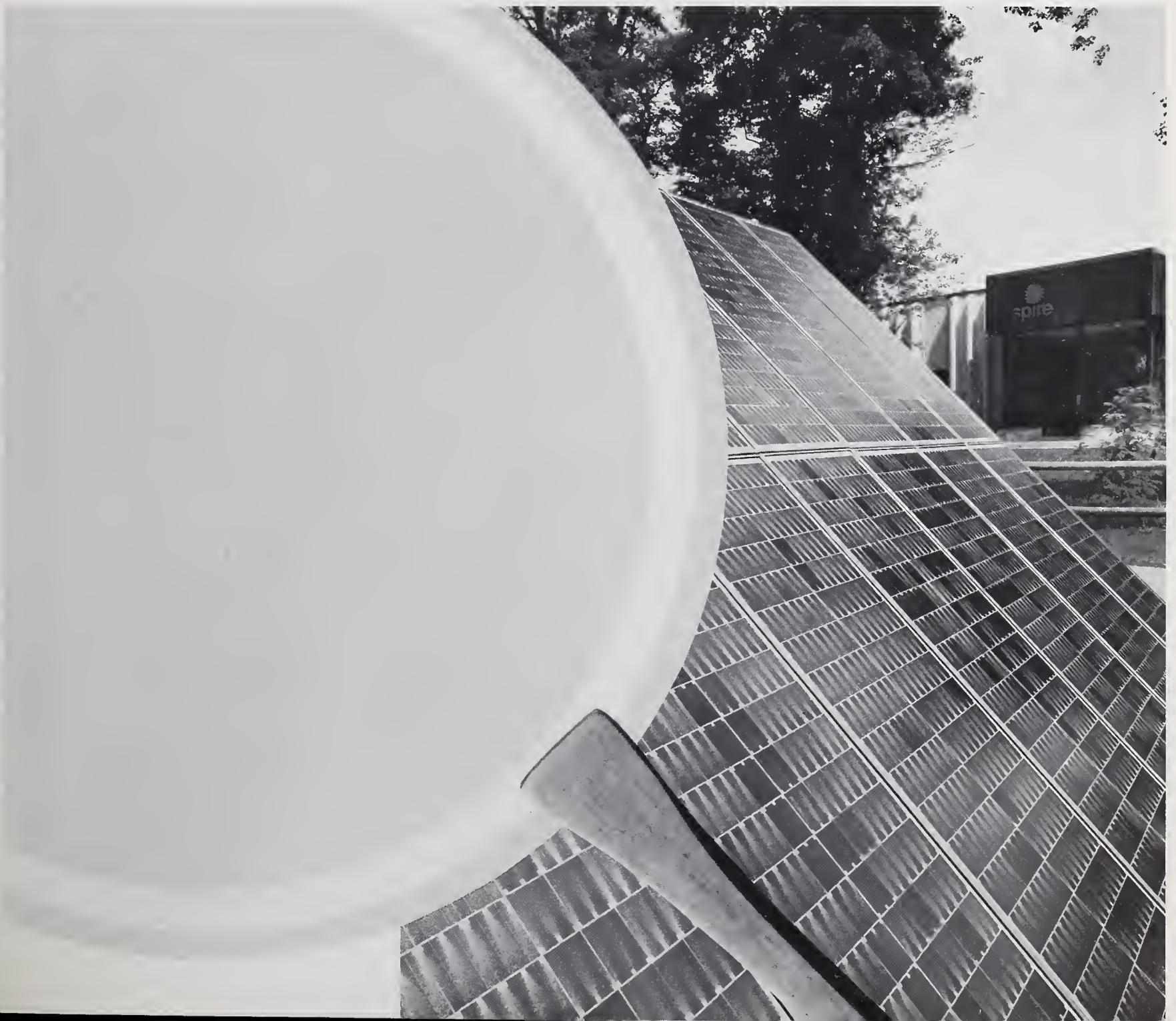
Spire Corporation

This Bedford-based company, which since 1969 has been very involved in federally-funded research and development in the solar electric science field, was attempting to shift from an essentially R&D operation to a commercial product/service organization, with special emphasis on the manufacturing of Pulsed Electron Beam Application (PEBA) processing machines. When MTDC first investigated the company, its efforts to obtain in the traditional capital markets the financing necessary to accomplish this transition had not been successful.

MTDC decided to invest \$250,000 in Spire, which, on November 30, 1979, became the first company in MTDC's portfolio. The MTDC investment enabled Spire to attract \$500,000 in equity financing from a publicly held corporation and to dramatically improve its banking relationship with substantial increases in both revolving lines of credit and term loans.

The investment from MTDC will help Spire achieve its goals of \$8 million in sales with 131 employees in 1981.

Spire's silicon Concentrator Solar Cell and a commercial photovoltaic module.



Saum Systems, Incorporated

The Montachusets area of Massachusetts has long been home to a number of companies which are leaders in plastic packaging technology so it was natural for Saum Systems, a company just expanding beyond the start-up stage, to locate in Leominster. The founder of Saum Systems, Robert Saumsiegle, developed a patented displacement blow molding technology that offers customers a machine that is less energy intensive and less costly to operate than competing

products. The company's goal is to achieve sales of \$10 million and create 90 new jobs by 1984.

In June, 1980, MTDC invested \$100,000 in Saum Systems while a privately-held corporation and an individual investor knowledgeable about the company's technology jointly invested \$200,000 in the company.

A sampling of plastic containers produced by Saum's machines.



Auditors' Opinion

Massachusetts Technology Development Corporation:

We have examined the balance sheets of Massachusetts Technology Development Corporation as of June 30, 1980 and 1979 and the related statements of revenues, expenditures, and changes in fund balances and the supplemental schedules of general support expenditures for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying financial statements present fairly the financial position of the Corporation at June 30, 1980 and 1979 and its revenues, expenditures, and changes in fund balances for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis and the supplemental schedules, when considered in relation to the basic financial statements, present fairly in all material respects the information shown therein.

Deloitte Haskins & Sells

August 11, 1980

Balance Sheets, June 30, 1980 and 1979

		1980	1979
Assets	General Support:		
	Cash and cash equivalents	\$ 47,744	\$ 56,279
	Interest receivable	7,556	
	Grants receivable	4,000	34,000
	Prepaid insurance premiums and deposits	2,756	2,720
	Office equipment – at cost less accumulated depreciation of \$5,871 in 1980 and \$5,662 in 1979 (Note 5)	608	817
	Total General Support	62,664	93,816
	Restricted:		
	Venture Development Program (Note 2):		
	Unexpended grant for revolving loan fund	1,022,000	1,972,000
	Notes receivable (Note 3)	950,000	
	Operating cash		26,000
	Total Suspended Particulates (TSP) Program – cash (Note 4)		17,709
	Total Restricted	1,972,000	2,015,709
	Total Assets	\$2,034,664	\$2,109,525
Liabilities and Fund Balances	General Support:		
	Accrued liabilities	\$ 12,586	\$ 2,145
	Fund balance (Note 1)	50,078	91,671
	Total General Support	62,664	93,816
	Restricted: Fund balances:		
	Venture Development Program (Note 2):		
	Revolving loan fund	1,972,000	1,972,000
	Operating fund		26,000
	Total Suspended Particulates (TSP) Program – (Note 4)		17,709
	Total Restricted	1,972,000	2,015,709
	Total Liabilities and Fund Balances	\$2,034,664	\$2,109,525

See notes to financial statements.

Statements of Revenues, Expenditures, and Changes in Fund Balances For the Years Ended June 30, 1980 and 1979

	1980		1979	
	General Support	Restricted Funds	General Support	Restricted Funds
Revenues				
Appropriation – Commonwealth of Massachusetts	\$190,000		\$150,000	
Grants:				
Northeast Solar Energy Center	6,000		142,500	
Department of Energy	9,800			
Economic Development Administra- tion (Note 2)			18,750	\$2,000,000
Binational Industrial Research and Development Foundation			7,500	
New England Regional Commission			5,000	
Contributions for Special Programs:				
Total Suspended Particulates		\$ 1,250		25,598
Coal Exploration				1,000
Interest earned	44,031	347	1,826	
Miscellaneous	504		1,443	
Interfund transfers			6,423	
Total revenues	250,335	1,597	333,442	2,026,598
Expenditures				
General support (Schedule I)	291,928	26,000	290,251	2,000
Restricted Funds:				
Total Suspended Particulates		19,306		92,283
Coal Exploration Program				1,000
Total expenditures	291,928	45,306	290,251	95,283
Excess (Deficiency) of Revenues Over Expenditures	(41,593)	(43,709)	43,191	1,931,315
Fund Balances, Beginning of Year	91,671	2,015,709	48,480	84,394
Fund Balances, End of Year	\$ 50,078	\$1,972,000	\$ 91,671	\$2,015,709

See notes to financial statements.

**Supplemental Schedules
Of General Support Expenditures
For the Years Ended June 30, 1980 and 1979**

	1980	1979
Salaries and wages	\$161,943	\$146,346
Consultants' fees	51,388	52,246
Payroll taxes	10,308	9,163
Fringe benefits	16,875	14,023
Legal and accounting	22,786	19,200
Travel	8,578	7,477
Rent	21,783	14,766
Telephone	6,703	9,434
Office supplies and expenses	7,387	8,271
Copy machine	4,089	3,120
Postage	1,022	2,118
Dues and seminars	654	1,504
Electricity	1,491	191
Books and periodicals	963	1,369
Insurance	909	1,156
Depreciation	209	292
Miscellaneous expenses	840	1,575
Total Expenditures	\$317,928	\$292,251
Allocation of Expenditures:		
General support	\$291,928	\$290,251
Restricted	26,000	2,000
Total, as above	\$317,928	\$292,251

Notes to Financial Statements

For the Years Ended

June 30, 1980 and 1979

1. Organization, Operations, and Funding

The Corporation came into existence on October 18, 1978 pursuant to an Act signed into law by the Governor of the Commonwealth of Massachusetts on July 19, 1978. This Act, known as Chapter 497 of the Acts of 1978, created the Corporation as successor to the Massachusetts Science and Technology Foundation, which was simultaneously dissolved. All of the rights and assets of the Foundation were transferred to the Corporation and all of its remaining liabilities were assumed by the Corporation. The accounts of the Foundation through its dissolution are reflected in the accompanying financial statements.

The purpose of the Corporation is to provide financial and other assistance to small, innovative enterprises in Massachusetts that have the potential to expand and generate new jobs and tax revenues. The Corporation is governed by a Board of Directors consisting of eleven members, eight of whom are appointed by the Governor from the private sector and three of whom are public officials. The Lieutenant Governor serves as one of the public official-directors.

Appropriations from the Commonwealth have been a significant source of funding. Through the fiscal year ended June 30, 1978, the predecessor Foundation had received appropriations from the Commonwealth aggregating \$1,050,110 under annual legislative acts. Additional appropriations of \$190,000 and \$150,000 were received during the years ended June 30, 1980 and 1979, respectively. The appropriation acts impose an obligation to reimburse the Commonwealth for amounts appropriated; however, in 1972, the Massachusetts Attorney General issued an opinion that "such continued funding by the Commonwealth suggests that the Legislature is mindful that the Foundation requires state support until such time as it is able to be self-supporting." Accordingly, the liability to the Commonwealth, if any, is not included in the accompanying financial statements.

2. Venture Development Program

The Corporation's Venture Development Program is funded by a \$2 million grant awarded during the year ended June 30, 1979 by the Economic Development Administration (EDA), U.S. Department of Commerce, under Title IX of the Public Works and Economic Development Act of 1965, as amended. Under this grant, the Corporation makes loans from a Revolving Loan Fund to eligible borrowers – Massachusetts-based businesses with operations involving a significant amount of technology located in EDA Title IV redevelopment areas which meet the requirements of an "enterprise" as defined in Section 1 of the Corporation's enabling act. Interest earned on the loans is credited to the Corporation's general support funds, from which the costs of administering the Loan Fund (other than start-up costs) are expended.

During the year ended June 30, 1979, a \$1 million letter of credit was established by the EDA at a bank to be drawn upon by the Corporation for making loans and providing for program start-up costs (\$28,000). A second letter of credit for an additional \$1 million was established by the EDA during the year ended June 30, 1980.

3. Notes Receivable

During the year ended June 30, 1980, the Corporation made loans under its Venture Development Program to five corporations in an aggregate amount of \$950,000. Interest on these loans is due monthly at the rate of 10% per year. Repayment of principal is due in monthly installments over a five- or six-year period commencing one or two years from the date of the loan. However, such principal payments are subordinated to the payment of certain senior debt of the borrowers.

4. Total Suspended Particulates (TSP) Program

In November 1979, the Corporation discontinued a program to make measurements and perform analysis of the total and respirable fractions of suspended particulates in their contribution to air pollution. For the years ended June 30, 1980 and 1979, activities of this program were as follows:

	1980	1979
Revenues		
Contributions from private sources, etc.	\$ 1,597	\$25,598
Expenditures:		
GCA Technology Division of Bedford for performance of program	16,185	85,850
General Operating Fund – transfers for management of program		6,423
Refunds to contributors	3,121	
Miscellaneous		10
Total expenditures	<u>19,306</u>	<u>92,283</u>
Excess of expenditures over revenues	<u>17,709</u>	<u>66,685</u>
Program fund balance, beginning of year	<u>17,709</u>	<u>84,394</u>
Program fund balance, end of year	<u><u>\$ -0-</u></u>	<u><u>\$17,709</u></u>

5. Office Facilities and Equipment

The Corporation has lease commitments primarily for office space during the next fiscal year approximating \$21,765 per year.

The Corporation records office equipment at cost and provides depreciation on a straight-line basis over the estimated useful lives of the equipment.

Board of Directors

Dr. Marvin G. Schorr
Chairman of the Board
President, Technical Operations, Inc.

Joe B. Wyatt
Vice Chairman of the Board
Vice President, Administration
Harvard University

Orie L. Dudley, Jr.
Investment Analyst
Endowment Management &
Research Corp.

Dr. John R. Ehrenfeld
Chairman
New England River Basins Commission

Honorable Edward T. Hanley
Secretary of Administration
and Finance

Joseph S. Iandiorio, Esquire
Patent Counsel

Honorable George S. Kariotis
Secretary of Economic Affairs

Honorable Thomas P. O'Neill, III
Lieutenant Governor

Dr. Judith H. Obermayer
Vice President
Moleculon Research Corp.

Dr. Robert C. Seamans, Jr.
Dean, School of Engineering
Massachusetts Institute of Technology

Arthur M. Vash
Corporate Director



Seated: Dr. Judith Obermayer, Dr. Marvin G. Schorr, Dr. John Ehrenfeld, Warren Berg, William F. Aikman.

Standing: Dr. Robert C. Seamans, George S. Kariotis, Richard Skerry, Esq. (designee of Secretary Hanley), Joseph Iandiorio, Esq., Joe B. Wyatt.

Officers and Staff

William F. Aikman

President

Warren S. Berg

Secretary and Treasurer

R. Stephen McCormack

Senior Investment Analyst

David G. Hughes

Senior Investment Analyst

Robert J. Crowley

Financial Analyst

Gail M. Cormier

Administrative Assistant

Legal Counsel

Palmer & Dodge

Boston, Massachusetts

Auditors

Deloitte, Haskins & Sells

Boston, Massachusetts

Accountants

Ayers & Sheehan

Boston, Massachusetts

Bankers

Shawmut Bank of Boston

Boston, Massachusetts

**Massachusetts
Technology Development
Corporation**

131 State Street

Boston, Massachusetts 02109

Telephone (617) 723-4920



Massachusetts
Technology Development
Corporation

131 State Street
Boston, Massachusetts 02109

